

Date: Thursday, 07/05/2009 3:53:21 PM  
 User: Melanie Fauteux

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: WEARPAD
Job Number	: 47809		
Estimate Number	: 13914		
P.O. Number	:	Part Number	: D384711
This Issue	: 07/05/2009 S.O. No. :	Drawing Number	: D3847 PREL
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : SMALL /MED FAB	Drawing Revision	: PREL
Previous Run	:	Material	:
Written By	:	Due Date	: 14/05/2009 Qty: 4 Um: Each
Checked & Approved By	: <u>UMF 09-05-07</u>		
Comment	: Est Rev:A New Issue 009.05.01 EC verified by:DD		

## Additional Product

**PRELIMINARY ISSUE** # 09-05-07

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	M304S16GA	304/316 Sheet .063
-----	-----------	--------------------

Comment: Qty.: 0.1785 sf(s)/Unit Total: 0.7140 sf(s)  
 M304S16GA Stainless steel sheet 0.063" thick  
 Batch: 11323 B 9-5-11

**CERTIFICATE OF CONFORMITY  
 REQUIRED**

2.0	WATER JET	FLOW WATER JET
-----	-----------	----------------

Comment: FLOW WATER JET  
 1-Cut as per Dwg D3847  
 Dwg Rev: PRE  
 Prog Rev: Lim B 9-5-11

2-Deburr if necessary B 9-5-11

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--

Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0	QC8	SECOND CHECK
-----	-----	--------------

Comment: SECOND CHECK

5.0	BRAKE NC	NC BRAKE
-----	----------	----------

Comment: NC BRAKE  
 Deburr if necessary  
 Form on Brake as per Dwg D3847

dt 8179  
dc 8155

SB 09/05/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 07/05/2009 3:53:21 PM  
User: Melanie Fauteux

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 47809

Part Number: D384711

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



2050527 (2)

**ENGINEERING  
APPROVAL**



(P10)

Comment: INSPECT WORK TO CURRENT STEP

Ensure joggle as per dwg D3429 N/A

05.06.02

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Qty Description Batch  
A/R 2059B Hardcoat 1111682  
Weld hardcoat as per Dwg D3847

FD 9-6-2 (X4)

8.0

QC10

VISUAL INSPECTION OF GROUND WELDS



2050603 (4)



Comment: VISUAL INSPECTION OF GROUND WELDS

9.0

QC5

INSPECT WORK TO CURRENT STEP



2050603 (4)

**ENGINEERING  
APPROVAL**



05.06.03

Comment: INSPECT WORK TO CURRENT STEP

10.0

POWDER COATING

POWDER COATING



m109091



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

START TIME: 10:25  
OVEN TEMPERATURE: 320°  
FINISH TIME: 10:55

FD 09/06/03

(4)

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BR 09-06-3 (4)

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock  
Location: \_\_\_\_\_

prototype table MF 09-06-22

POSITIVE RECALL

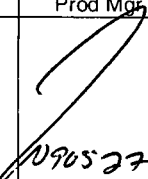
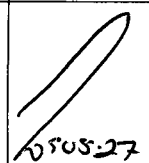
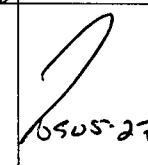
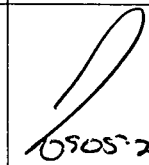
EFFECTIVE 09-05-08 AUTH \_\_\_\_\_

RELEASED \_\_\_\_\_ DATE \_\_\_\_\_

ENG USE ONLY.

EIA SCRAP REMAINING BIN

05.05.02

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
0905-22	5.0	Include the DT#'s for tooling to bench.  perm change				 0905-22	 0905-22	
0905-22	6.0	Remove the joggle comment. No joggle on this part.  perm change				 0905-22	 0905-22	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 07/05/2009 3:53:22 PM  
User: Melanie Fauteux

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPAD

Job Number: 47809

Part Number: D384711

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf  
09-06-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

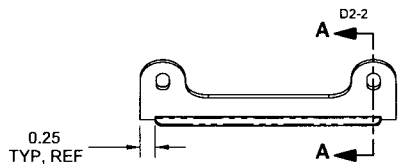
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

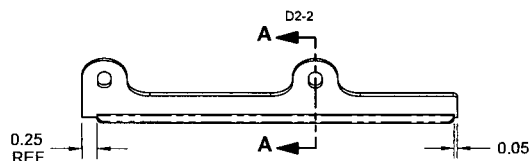


8 7 6 5 4 3 2 1



**D3847-1 WEARPAD**  
MADE FROM D3847-1F FLAT PATTERN

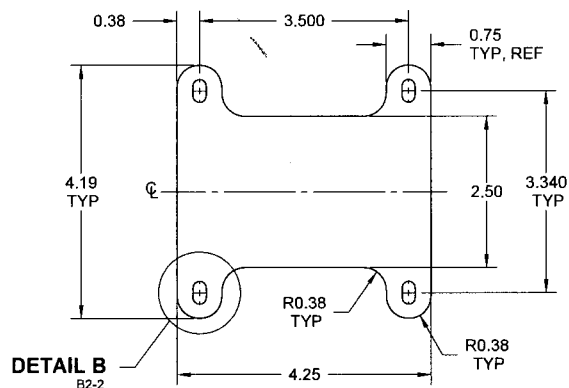
09.05.07  
**PRELIMINARY ISSUE**



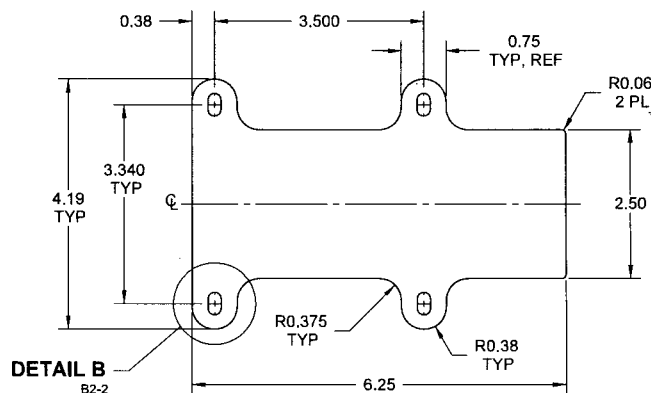
**D3847-11 WEARPAD**  
MADE FROM D3847-11F FLAT PATTERN

**NOTES:**

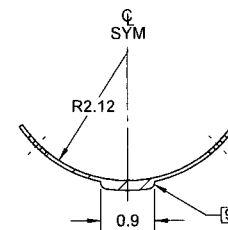
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK), (REF. DART SPEC. M304S16GA)
- 2) FINISH: POWDER COAT "GREY SANDING" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3847-X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT:  
D3847-1 = 0.33 lbs  
D3847-11 = 0.47 lbs
- 8) WELD PER QSI 004
- 9) APPLY 2 LAYERS OF 2059B HARDCOAT WELDS TO WITHIN 0.25 OF WEARPAD ENDS 0.19 TO 0.25 THICK UNLESS OTHERWISE INDICATED



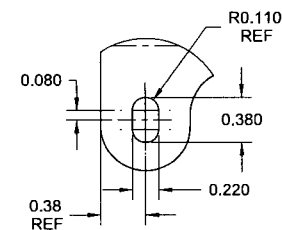
**D3847-1F FLAT PATTERN**



**D3847-11F FLAT PATTERN**



**SECTION A-A** D7-2 B7-2



**DETAIL B** C5-2 B5-2  
TYP. SCALE 2X

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	RF	DRAWING NO.	REV. A
MFG. APPR.	RF	<b>D3847</b>	SHEET 2 OF 7
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	<b>WEARPLATE ASSY</b>	NTS
DATE	09.03.30	<small>COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1



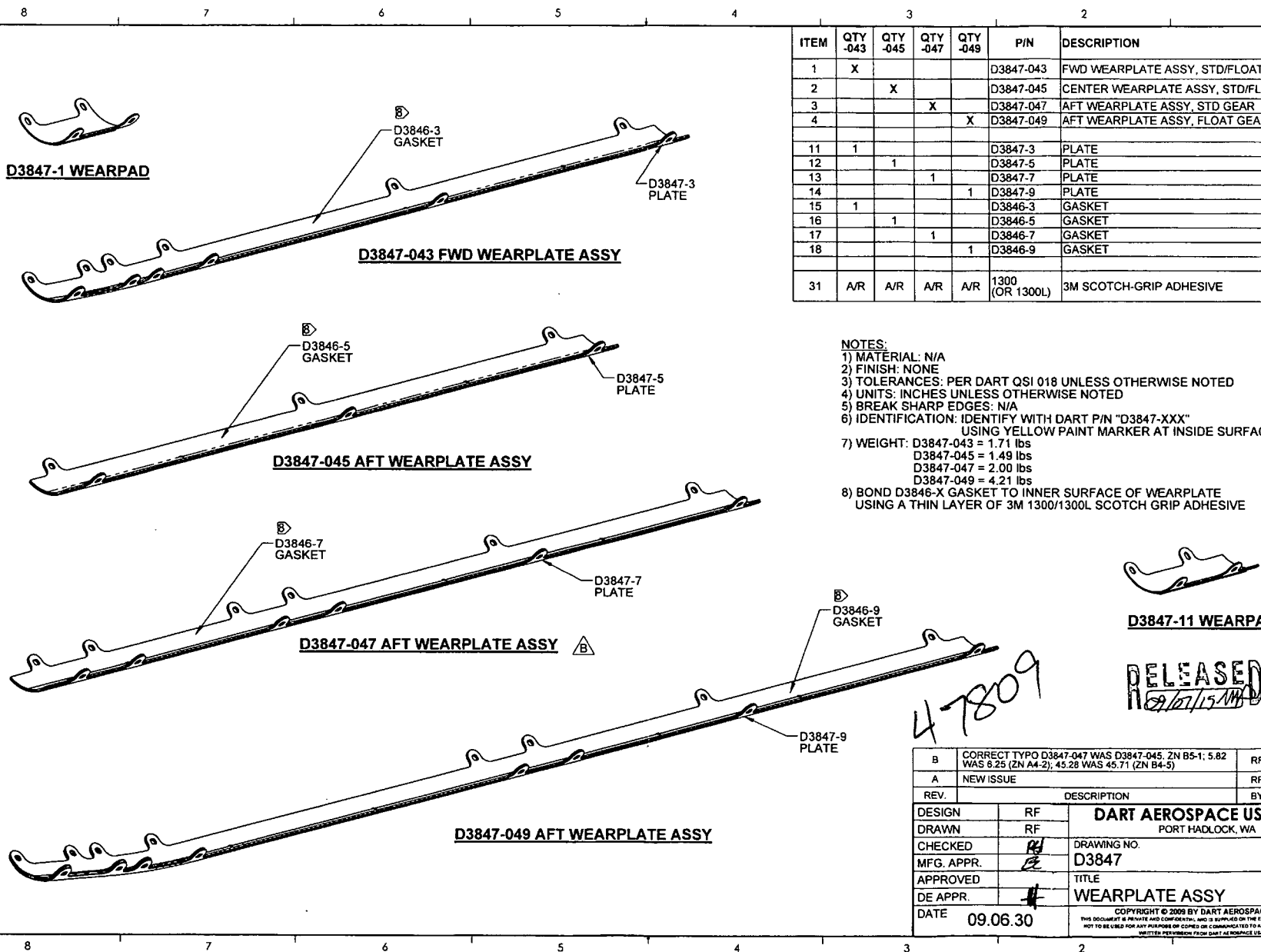
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



ITEM	QTY -043	QTY -045	QTY -047	QTY -049	P/N	DESCRIPTION
1	X				D3847-043	FWD WEARPLATE ASSY, STD/FLOAT GEAR
2		X			D3847-045	CENTER WEARPLATE ASSY, STD/FLOAT GEAR
3			X		D3847-047	AFT WEARPLATE ASSY, STD GEAR
4			X		D3847-049	AFT WEARPLATE ASSY, FLOAT GEAR
11	1				D3847-3	PLATE
12		1			D3847-5	PLATE
13			1		D3847-7	PLATE
14				1	D3847-9	PLATE
15	1				D3846-3	GASKET
16		1			D3846-5	GASKET
17			1		D3846-7	GASKET
18				1	D3846-9	GASKET
31	A/R	A/R	A/R	A/R	1300 (OR 1300L)	3M SCOTCH-GRIP ADHESIVE

- NOTES:
- 1) MATERIAL: N/A
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: N/A
  - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3847-XXX" USING YELLOW PAINT MARKER AT INSIDE SURFACE
  - 7) WEIGHT: D3847-043 = 1.71 lbs  
D3847-045 = 1.49 lbs  
D3847-047 = 2.00 lbs  
D3847-049 = 4.21 lbs
  - 8) BOND D3846-X GASKET TO INNER SURFACE OF WEARPLATE USING A THIN LAYER OF 3M 1300/1300L SCOTCH GRIP ADHESIVE

47809



D3847-11 WEARPAD

RELEASED  
09/07/15

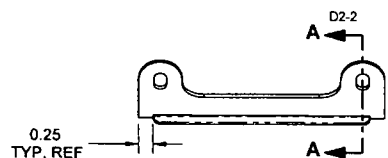
B	CORRECT TYPO D3847-047 WAS D3847-045. ZN B5-1: 5.82 WAS 6.25 (ZN A4-2); 45.28 WAS 45.71 (ZN B4-5)	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	RF		
MFG. APPR.	RF		
APPROVED	RF		
DE APPR.	RF		
DATE	09.06.30		

DART AEROSPACE USA, INC.  
PORT HADLOCK, WA

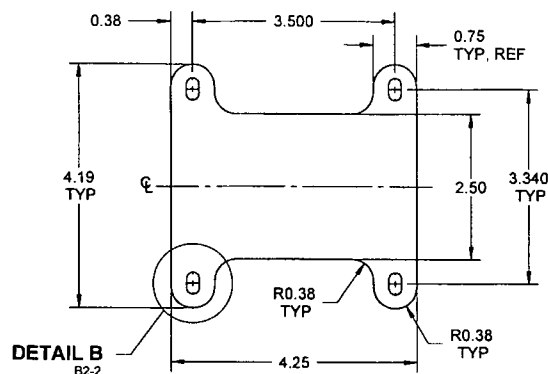
DRAWING NO. D3847  
REV. B  
SHEET 1 OF 7  
TITLE WEARPLATE ASSY  
SCALE NTS

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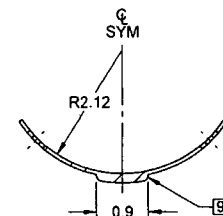
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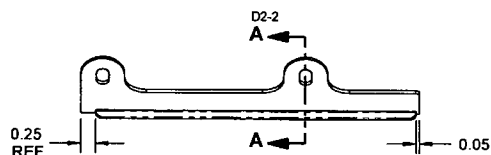
**D3847-1 WEARPAD**  
MADE FROM D3847-1F FLAT PATTERN



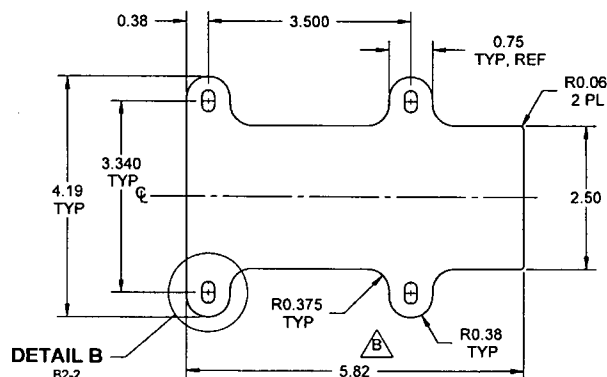
**D3847-1F FLAT PATTERN**



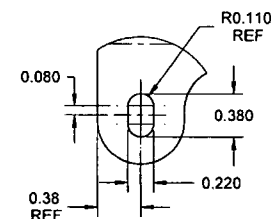
**SECTION A-A** D7-2 B7-2



**D3847-11 WEARPAD**  
MADE FROM D3847-11F FLAT PATTERN



**D3847-11F FLAT PATTERN**



**DETAIL B** C5-2 B5-2  
TYP, SCALE 2X

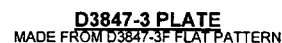
**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK), (REF. DART SPEC. M304S16GA)
- 2) FINISH: POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3847-X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT:  
D3847-1 = 0.03 lbs  
D3847-11 = 0.47 lbs
- 8) WELD PER QSI 004
- 9) APPLY 2 LAYERS OF 2059B HARDCOAT WELDS TO WITHIN 0.25 OF WEARPAD ENDS 0.19 TO 0.25 THICK UNLESS OTHERWISE INDICATED

**RELEASED**  
12/27/15

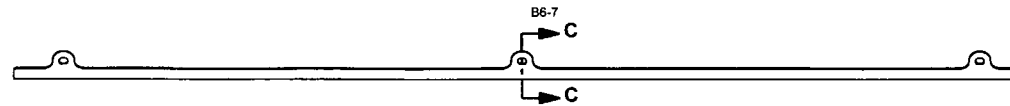
DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>RF</i>	DRAWING NO. <b>D3847</b>	REV. B
MFG. APPR.	<i>RF</i>	SHEET 2 OF 7	
APPROVED		TITLE	SCALE
DE APPR.	<i>RF</i>	<b>WEARPLATE ASSY</b>	NTS
DATE	<b>09.06.30</b>	<small>COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

8 7 6 5 4 3 2 1

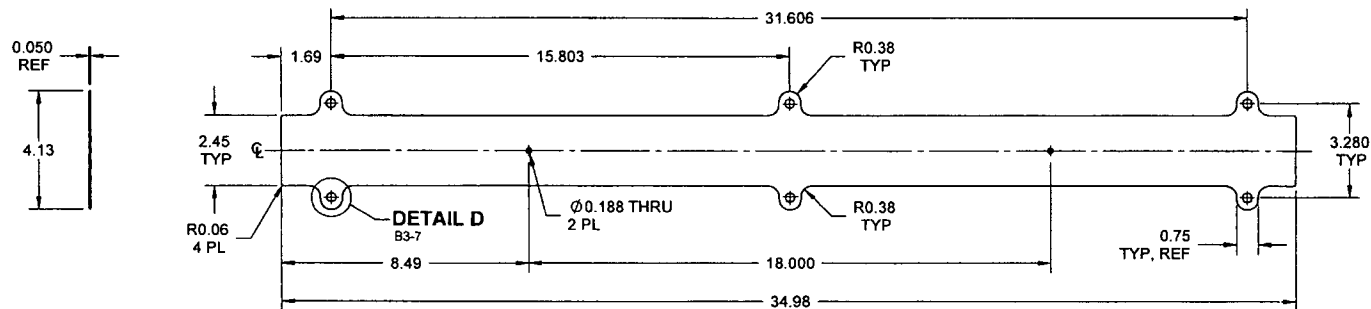


- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524,  
18 GAUGE (0.050 THICK), (REF. DART SPEC. M304S18GA)
- 2) FINISH: POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.46 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA  DRAWING NO. <b>D3847</b>  TITLE <b>WEARPLATE ASSY</b>  SCALE <b>NTS</b>
DRAWN	RF	
CHECKED	RF	
MFG. APPR.	EE	
APPROVED		
DE APPR.		
DATE 09.06.30		COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. <small>THIS DOCUMENT IS PROVIDED AS IS AND WITHOUT WARRANTY. THE CONTENTS OF THIS DOCUMENT ARE NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATIONS TO ANY OTHER PERSON WITHOUT</small>



**D3847-5 PLATE**  
MADE FROM D3847-5F FLAT PATTERN



**D3847-5F FLAT PATTERN**

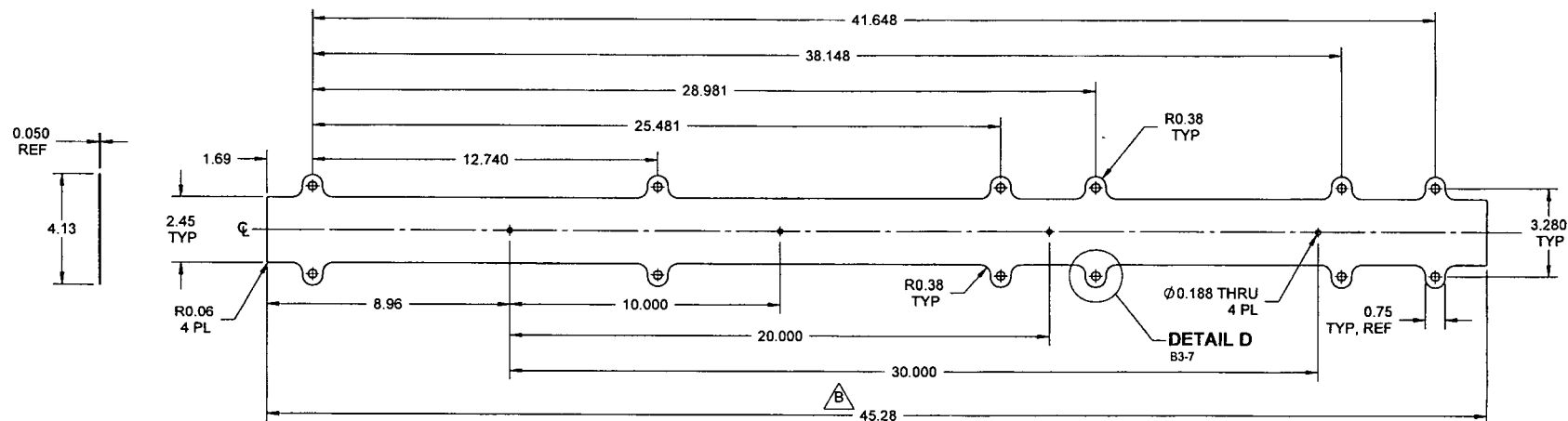
**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524, 18 GAUGE (0.050 THICK), (REF. DART SPEC. M304S18GA)
- 2) FINISH: POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.29 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D3847</b>	REV. B
MFG. APPR.	<i>[Signature]</i>	SHEET 4 OF 7	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>WEARPLATE ASSY</b>	NTS
DATE	<b>09.06.30</b>	<small>COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

47809  
RELEASED  
9/6/15

**D3847-7 PLATE**  
MADE FROM D3847-7F FLAT PATTERN



**D3847-7F FLAT PATTERN**

**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524, 18 GAUGE (0.050 THICK), (REF. DART SPEC. M304S18GA)
- 2) FINISH: POWDER COAT "GREY SANTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 1.70 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>PH</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>E</i>	<b>D3847</b>	SHEET 5 OF 7
APPROVED		TITLE	SCALE
DE APPR.	<i>#</i>	<b>WEARPLATE ASSY</b>	NTS
DATE	09.06.30	<small>           COPYRIGHT © 2009 BY DART AEROSPACE USA, INC.            THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS APPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.         </small>	

47809  
RELEASED  
10/17/2010

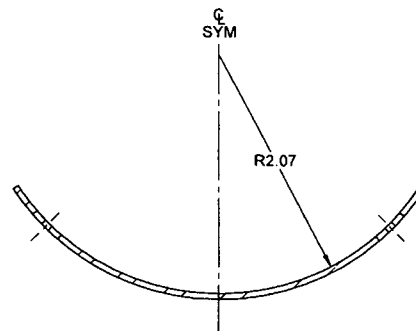


47809

RELEASE  
09/07/15

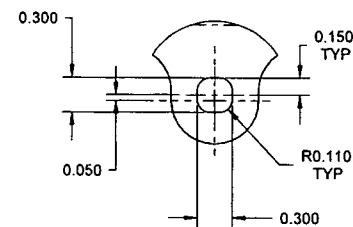
- 1) MATERIAL: AISI 4043/316 STAINLESS STEEL PER AMS 5513 OR AMS 5524,  
18 GAUGE (0.050 THICK), (REF: DART SPEC. M304S18GA)
- 2) FINISH: POWDER COAT "GREY SANITEX" (3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 3.86 lbs

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	AB	DRAWING NO.	REV. F
MFG. APPR.	E	D3847	SHEET 6 OF
APPROVED		TITLE	SCALE
DE APPR.	#	WEARPLATE ASSY	NTS
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**SECTION C-C**  
SCALE 4X

D4-3  
D4-4  
D3-5  
D3-6



**DETAIL D**  
TYP. SCALE 4X

B5-3  
B5-4  
B3-5  
B5-6

47809  
RELEASED  
09/27/15 MLD

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	<i>RF</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>FE</i>	D3847	SHEET 7 OF 7
APPROVED		TITLE	SCALE
DE APPR.	<i>JF</i>	WEARPLATE ASSY	NTS
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